

Notice of Allowability

Application No.

10/717,704

Examiner

Nathan Danielsen

Applicant(s)

COOKSON ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment filed 31 July 2007 and RCE filed 27 August 2007.
2. ☒ The allowed claim(s) is/are 1,4-9,19,20,22-27,29-33 and 39-45.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>one page of corrected drawings</u> . |

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DETAILED ACTION

1. Claims 1, 4-9, 19, 20, 22-27, 29-33, and 39-45 are allowed. Claims 2, 3, 10-15, 21, 28, 34, and 35 have been canceled and claims 36-38 have been added in applicant's amendment filed 20 November 2006. Claims 16-18, 36, and 37 have been canceled in applicant's amendment filed 31 July 2007. Claim 38 has been canceled by examiner's amendment, as shown below.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 July 2007 has been entered.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Tiberiu Weisz (Reg. # 29,876) on 11 October 2007.

The application has been amended as follows:

Replace claim 1 with the following:

1. A player for playing an optical disc with a first side and a second side, wherein data is arranged on the data layer of said first side along a first spiral oriented in a first direction when viewed on said first side, and data is arranged on the data layer of said second side along a second spiral oriented in a direction opposite that of said first spiral when viewed on said second side; said player comprising:

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a microprocessor determining a direction of rotation for the disc that allows data to be read from either side of the disc, said microprocessor generating corresponding microprocessor commands, by analyzing the waveshape of the signals on the disc;

a motor responsive to said microprocessor commands to rotate the disc in said direction of rotation; and

a read head disposed adjacent to said first side for reading data;

wherein said microprocessor includes an A/D converter receiving an analog signal from said read head representing said waveshape and converting said analog signal into a digital stream and a data decoder receiving said digital stream and attempting to convert said digital data stream into recognized data using a first set of parameters P1, and generating an output indicative of whether said attempt is successful; and

wherein said microprocessor generates a first microprocessor command if said output indicates that said data decoder was successful in generating recognized data and a second microprocessor command if said output indicates that said data decoder was not successful in generating recognized data.

Replace claim 4 with the following:

4. The player of claim 1 wherein said disc includes a main portion with program data arranged along said first spiral to allow data to be read from said main portion when said disc is rotated in said direction of rotation, and a special portion with disc characteristic data arranged to be read when the disc is rotated in an opposite direction, and wherein said microprocessor sends a read command to said read head to read data in said special portion.

Replace claim 5 with the following:

5. The player of claim 4 wherein said microprocessor generates said read command only when no data is detected in the main portion.

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Replace claim 7 with the following:

7. A player for playing an optical disc with a first side and a second side, wherein data is arranged on the data layer of said first side along a first spiral oriented in a first direction when viewed on said first side, and data is arranged on the data layer of said second side along a second spiral oriented in a direction opposite that of said first spiral when viewed on said second side; said player comprising:

a microprocessor determining a direction of rotation for the disc that allows data to be read from either side of the disc, said microprocessor generating corresponding messages to a user indicating whether the disc is rotated in the proper direction and microprocessor commands responsive to user actions;

a motor responsive to said microprocessor commands to rotate the disc in said direction of rotation;

a read head disposed adjacent to said first side for reading data; and

a manual switch operable by a user in response to said messages for controlling the direction in which said motor rotates the disc;

wherein said microprocessor includes an A/D converter receiving an analog signal from said read head representing a waveshape corresponding to data read by said read head and converting said analog signal into a digital stream and a data decoder receiving said digital stream and attempting to convert said digital data stream into recognized data using a first set of parameters P1, and generating an output indicative of whether said attempt is successful; and

wherein said microprocessor generates a first microprocessor command if said output indicates that said data decoder was successful in generating recognized data and a second microprocessor command if said output indicates that said data decoder was not successful in generating recognized data.

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Replace claim 19 with the following:

19. An optical disc player for reading a disc having first and second sides, each side carrying data arranged to be read only when the disc is rotating in a first direction and has a first orientation or the disc is rotating in a second direction and has a second orientation, the player comprising:

- a microprocessor that issues microprocessor commands;
- at least a first read head to read data from said first side of the disc;
- a motor rotating said disc in a specified direction; and
- a display responsive to microprocessor commands to display a message requesting that the disc be reversed;

wherein said microprocessor includes an A/D converter receiving an analog signal from said first read head representing said data and converting said analog signal into a digital stream and a data decoder receiving said digital stream and attempting to convert said digital data stream into recognized data using a first set of parameters P1, and generating an output indicative of whether said attempt; and

wherein said microprocessor generates a first command if said output indicates that said data decoder was successful in generating recognized data and a second command if said output indicates that said data decoder was not successful in generating recognized data.

Replace claim 20 with the following:

20. A method of operating an optical disc player comprising:

- inserting an optical disc into the disc player, said disc having at least one side with a data layer with data;
- rotating the disc in a predetermined direction;
- determining if the data is readable by:
- reading an analog signal from the disc;
- converting said analog signal into a digital stream;

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attempting to decode and convert said digital stream into recognized data using a first set of parameters P1;
generating a command if the attempt is successful; and
rotating the disc in a direction opposite to the predetermined direction if the attempt is unsuccessful.

Replace claim 22 with the following:

22. The method of claim 20 wherein said data layer includes program data and a special portion with disc characteristic data, wherein said analog signal is read from said special portion.

Replace claim 23 with the following:

23. The method of claim 22 wherein said program data and said disc characteristic data are arranged on said data layer so that said program data and said disc characteristic data can be read when the disc is rotated in an appropriate direction.

Replace claim 24 with the following:

24. The method of claim 22 wherein said program data is arranged so that it can be read only when the disc is rotated in a first direction and said disc characteristic data is arranged so that said program data can be read only when the disc is rotated in a second direction opposite to said first direction.

Replace claim 25 with the following:

25. The method of claim 20 wherein said data layer includes a first portion having first data arranged for reading when the disc is rotated in a first direction and a second portion with second data arranged for reading when the disc is rotated in a second direction opposite said first direction, and wherein in said step of attempting, a first attempt is made to read said first data, and if this first data cannot be read, the rotation is reversed and a second attempt is made to read said second data.

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Replace claim 26 with the following:

26. The method of claim 20 wherein said data layer includes said special data that is readable when the disc is rotated either in a first or a second direction, said data being indicative of the proper direction rotation required for data on the disc to be read, wherein said analog signal includes said special data.

Replace claim 27 with the following:

27. A method of operating a disc player to play a disc having a first and a second side, each said side having data arranged along a respective first and second spiral, said spirals being mirror images of each other when viewed from the respective sides, so that the disc can be read when it is rotated in a first direction and has a first orientation, or when it is rotated in a second direction and has a second orientation, comprising:

inserting the disc into the player;

determining the orientation of the disc reading an analog signal from the first side of said disc;

converting said analog signal into a digital stream;

attempting to decode and convert said digital stream into recognized data using a first set of parameters P1; and

rotating the disc in the direction required to play one of said sides of the disc based on the orientation of the disc.

Replace claim 29 with the following:

29. The method of claim 27 wherein the step of determining includes rotating the disc in a predetermined direction.

Replace claim 30 with the following:

30. The method of claim 29 further comprising reversing said rotation if the attempt is unsuccessful.

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Replace claim 31 with the following:

31. The method of claim 27 wherein said disc has a special section on the first side, and wherein said step of determining includes reading said analog signal from said special section.

Replace claim 32 with the following:

32. The method of claim 27 wherein said disc has on said first side a first special section with data oriented along said first spiral and a second special section with data disposed along a spiral oriented in a direction opposite that of said first spiral, and wherein said step of determining includes rotating the disc for reading said analog signal from the first special section, and if the attempt is unsuccessful, reversing the rotation of the disc and repeating the steps of converting and attempting using an analog signal read from the second special section.

Replace claim 33 with the following:

33. The method of claim 27 wherein said disc includes a special section on one side with data indicative of the required direction of the rotation for the disc for data to be read from either side, said data being readable independently of the direction of rotation of the disc and wherein said step of determining includes reading said analog signal from said special section.

Cancel claim 38.

Replace claim 39 with the following:

39. The player of claim 1 wherein if said data decoder is unsuccessful with said first set of parameters, said data decoder further attempts to convert said digital stream into said recognized data using a second set of parameters, and wherein if the data decoder is successful using said second set of parameters, said microprocessor generates a reverse command to reverse the direction of rotation of said motor.

Replace claim 40 with the following:

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40. The player of claim 39 wherein said sets of parameters are obtained by analyzing signals from said read head corresponding to a known data segment.

Replace claim 41 with the following:

41. The player of claim 1 wherein said data decoder further includes a shift register storing a predetermined portion of said digital stream, and wherein if said data decoder is unsuccessful with said first set of parameters, the data decoder attempts to decode and convert said digital stream into said recognized data using said portion of said digital stream from said shift register in a reverse order.

Replace claim 42 with the following:

42. The method of claim 20 wherein a message is displayed to reverse the rotation of said disc if said attempt is not successful.

Replace claim 43 with the following:

43. The method of claim 20 wherein the rotation of said disc is reversed automatically if said attempt is not successful.

Replace claim 44 with the following:

44. The method of claim 20 further comprising attempting a second time to decode and convert said digital stream into said recognized data using a second set of parameters P2 characteristic of a reversed digital stream corresponding to the disc rotation being reversed if the attempt using said first set of parameters P1 is unsuccessful.

Replace claim 45 with the following:

45. The method of claim 20 further comprising storing a portion of said digital stream and if said attempt is unsuccessful, making a second attempt by reversing said portion of said digital stream.

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4. The following changes to the drawings have been approved by the examiner and agreed upon by applicant (expressly through applicant's prior attempts to make the appropriate corrections pursuant to the drawing objections in the Office Actions mailed 14 June 2006 and 06 March 2007): see the attached corrected drawing sheet. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance: the prior art of record, either alone or in combination, fails to teach or fairly suggest, in claims 1, 7, 19, 20, and 27, the outputting a command on the basis of the recognition of data that has been digitized after attempting to decode a digital data stream to form said data to determine the proper orientation/rotational direction of the disc.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Danielsen
10/11/2007

/William Korzuch/
SPE, Art Unit 2627

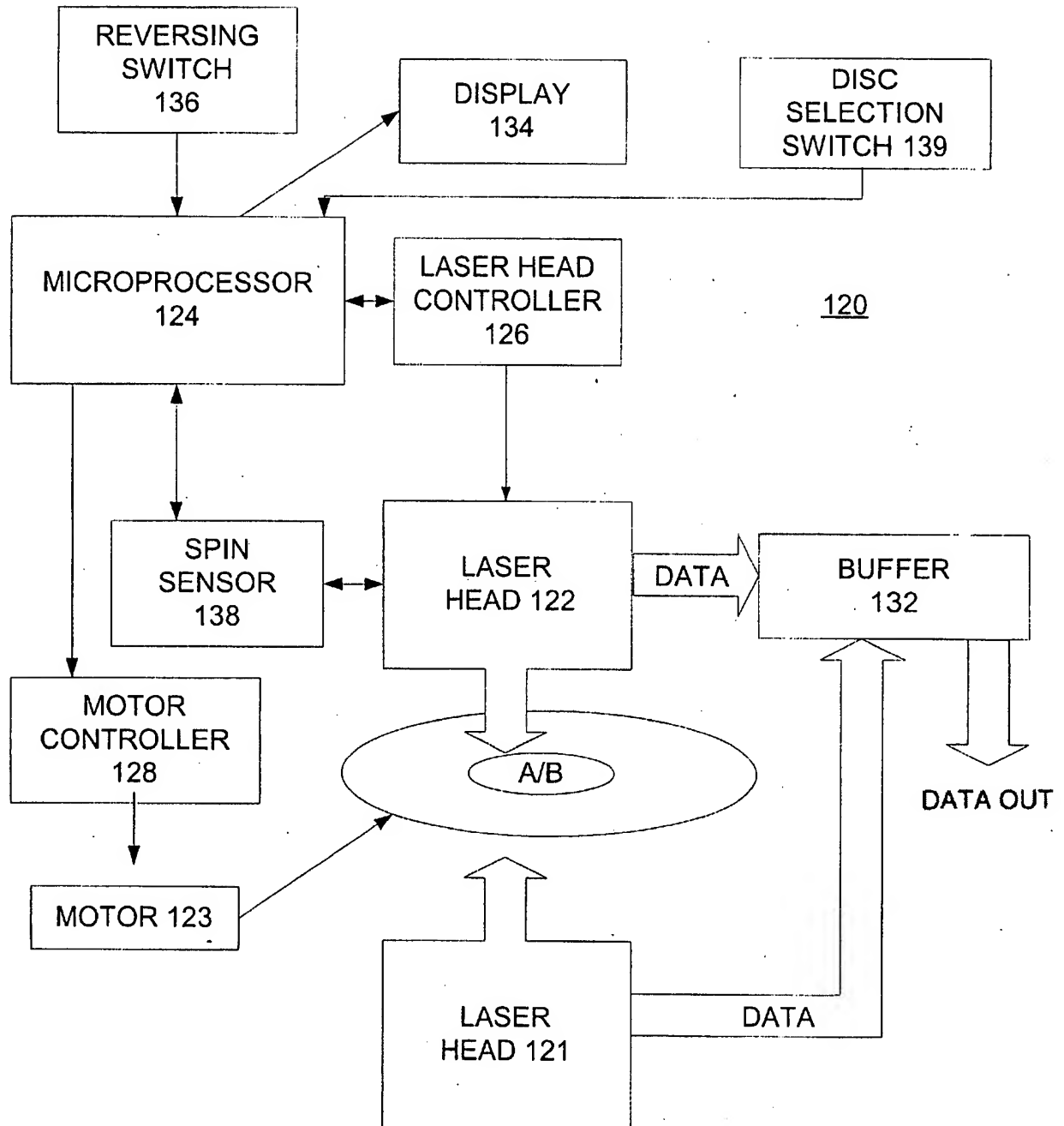


FIG. 2